

## **REMARKS**

This is a full and timely response to the non-final Office Action mailed September 19, 2005. Upon entry of the amendments in this response, claims 1 – 15 are pending. In particular, Applicants have amended claims 3, 8, 10 – 11, and 15, and have canceled claims 16 – 18 without prejudice, waiver, or disclaimer. Reconsideration and allowance of the application and presently pending claims are respectfully requested.

### **I. Restriction / Election**

In response to the Office Action's indication that the "restriction is proper, and the requirement made FINAL," Applicants have canceled claims 16 – 18 without prejudice, waiver, or disclaimer.

So far as understood, for at least the reason that the Office Action has considered each of remaining claims 1 – 15 in the pending Office Action, claims 1 – 15 are not believed to have been withdrawn from consideration and have been considered to reside in the same species for the purposes of examination.

### **II. Claim Objections**

The Office Action indicates that claim 3 is objected to because of an informality. Specifically, the Office Action alleges that "The phrase 'barrel-like' renders the claim indefinite because the claim includes elements not actually disclosed (those encompassed by 'or the like'), thereby rendering the scope of the claims unascertainable." (Office Action, pg. 3).

Applicants have amended claim 3 to now recite that the press fit portion is “barrel-shaped” as suggested and considered in the pending Office Action. Accordingly, Applicants submit that the objection should be withdrawn.

### **III. Claims 8, 10 and 11 Comply with 35 U.S.C. §112, Second Paragraph**

The Office Action rejects claims 8, 10 and 11 under 35 U.S.C. §112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

#### ***Claim 8***

The Office Action alleges that “It is not clearly shown how the ‘multiple helical profile’ has ‘at least six pitches,’” but that “Claim 8 has been treated as ‘... helical profile includes at least six threads.’” (Office Action, pg. 3).

Applicants submit that the term “pitches” is an accepted term in the art when relating to the number of “threads” of a helical profile (as opposed to a threaded portion), such as a double helix. However, in the interest of advancing prosecution, Applicants have amended claim 8 to recite that “the helical profile includes at least six threads” as examined in the pending Office Action.

Accordingly, Applicants submit that amended claim 8 is not indefinite and that the rejection of claim 8 under 35 U.S.C. §112 should be withdrawn for at least these reasons.

### ***Claims 10 and 11***

The Office Action alleges that “The term ‘flank diameter’ is unclear, because it may comprise a major/minor/pitch diameter.” (Office Action, pg. 3).

Applicants have amended claims 10 and 11 to change the term “flank diameter” to “pitch diameter” as apparently suggested in the Office Action. Accordingly, Applicants submit that claims 10 and 11 are definite and the rejection to claims 10 and 11 under 35 U.S.C. §112 should be withdrawn for at least this reason.

### **IV. Claims 1 – 7, 9, 10 and 15 are Patentable Over *Damm***

The Office Action rejected claims 1 – 7, 9, 10 and 15 under 35 U.S.C. §102(b) as allegedly being anticipated by U.S. Patent No. 5,645,386 to Damm (“*Damm*”). For the reasons set forth below, the rejection should be withdrawn and the claims allowed.

#### ***Independent Claim 1***

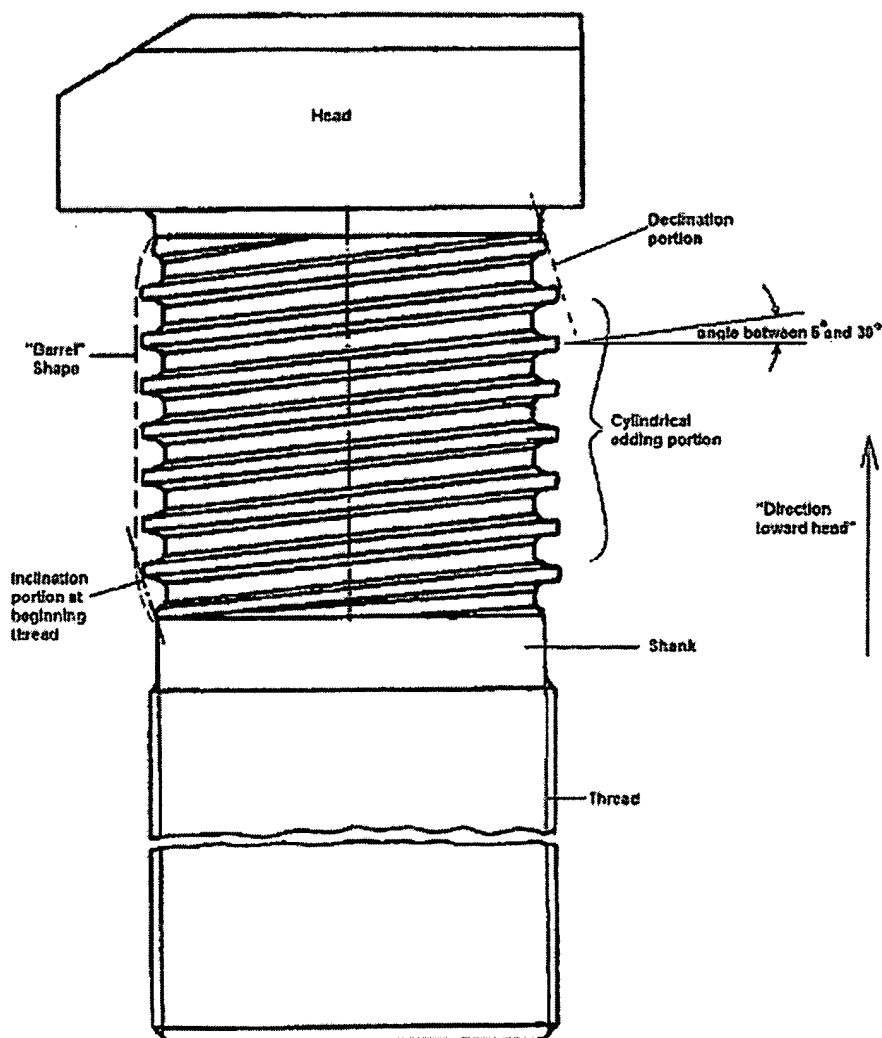
Independent Claim 1 recites:

1. A press fit fastener, comprising:
  - a shank having a first end and a second end;
  - a head being located at the first end of said shank; and
  - a press fit portion being located at said shank, said press fit portion having an outer diameter and including a multiple helical profile, said helical profile having ***a beginning portion and an inclination portion having an increasing outer diameter, the outer diameter of said inclination portion being designed to increase in a direction towards said head to reach a maximum outer diameter***, the maximum outer diameter of said inclination portion being spaced apart from said head.

(*Emphasis added*). Applicants respectfully submit that independent claim 1 patently defines over *Damm* for at least the reason that *Damm* fails to disclose, teach, or suggest the features emphasized in bold text above.

First, Applicants submit that *Damm* fails to disclose both of the claimed elements of a “beginning portion” and an “inclination portion.” That is, claim 1 includes these two distinct features, yet the Office Action does not even allege that the claimed “beginning portion” is even disclosed by *Damm*. Furthermore, assuming *arguendo* that the “beginning portion” is disclosed by *Damm*, any remaining portion does not meet the recited features of the “inclination portion.”

The Office Action alleges that *Damm* discloses the claimed “inclination portion” as depicted in the following figure, copied from pg. 5 of the pending Office Action:



Specifically, the Office Action indicates that the inclination portion is at the “beginning thread.” (Office Action, pg. 5). Applicants submit that the bottom of the alleged “inclination portion” referenced in the above figure could be argued to be the claimed “beginning portion,” but that, if this is so, no additional claimed “inclination portion” is disclosed by *Damm*. That is, all remaining threads in the figure of *Damm* are not “designed to increase in a direction towards said head to reach a maximum outer diameter” as recited in claim 1.

Applicants refer to the specification, which may assist in providing a distinction between the beginning portion and inclination portion:

"According to the definition of the invention, ***the inclination portion of the press fit portion is to be distinguished from the beginning portion which is a necessary part of each helical profile.*** A helical profile is to be understood as a continuous impression winding about the screw axis of the fastener such that there are protrusions between each of the turns which also extend about the screw axis in a thread-like manner. ***The beginning portion of the helical profile is the transition region between the part of the shank in which there is no helical profile and the part of the shank in which the helical profile continues.*** In this portion, there will always be a slight inclination of the outer diameter due to the way the helical profile is produced. This means that the outer diameter slightly increases in this portion. However, in conventional helical profiles according to the prior art, the outer diameter does not further increase. A prior art press fit portion includes a constant core diameter and a constant outer diameter with the only exceptions of the comparatively short beginning portion and the end portion of the helical portion. ***In contrast thereto, the novel press fit portion and the helical profile being located therein, respectively, in addition to the beginning portion includes an (additional) inclination portion in which the outer diameter increases.*** It is preferred that the core diameter of the helical profile, however, is constant."

(*Emphasis added*, pg. 5, line 25 – pg. 6, line 15). Thus, it should be apparent that claim 1 recites at least two portions that comprise the “press fit portion,” including: (1) the “beginning portion” and (2) the “inclination portion.” However, none of the text on pg. 4,

nor the items set forth in the figure from pg. 5 of the Office Action, even allege that the feature of the “beginning portion” is disclosed by *Damm*.

Thus, even assuming, *arguendo*, that the alleged “inclination portion” of the figure is equivalent to the claimed “inclination portion,” Applicants submit that *Damm* does not disclose, teach, or suggest a separate “beginning portion,” and claim 1 should be allowed for this reason alone.

Further, in the alternative, assuming *arguendo* that the referenced portion of the figure on page 5 of the Office Action is considered to be equivalent to the claimed “beginning portion,” *Damm* does not disclose the claimed feature of the “inclination portion” for at least the reason that the portion labeled in the figure above as “Cylindrical adding portion” does not depict (*i.e.* disclose, teach, or suggest) the feature of the inclination portion having “an increasing outer diameter, ***the outer diameter of said inclination portion designed to increase in a direction towards said head to reach a maximum outer diameter***” as recited in claim 1. Rather, the threads of this alleged “Cylindrical adding portion” of *Damm* apparently have a constant outer diameter.

Accordingly, claim 1 patently defines over *Damm* for at least the additional and independent reason that *Damm* does not disclose, teach, or suggest the feature of an “***an inclination portion having an increasing outer diameter, the outer diameter of said inclination portion being designed to increase in a direction towards said head to reach a maximum outer diameter,***” as recited in claim 1.

Accordingly, for at least these reasons, Applicants submit that the rejection to claim 1 should be withdrawn and the claim allowed. Furthermore, because independent claim 1 patently defines over *Damm*, dependent claims 2 – 15 are allowable over *Damm*

as a matter of law for at least the reason that claims 2 – 15 contain all the features and elements of their corresponding independent claim. See, e.g. *In re Fine*, 837 F. 2d 1071 (Fed. Cir. 1988).

***Dependent Claims 2 – 7, 9, 10 and 15***

Applicants submit that the 35 U.S.C. § 102 rejection to claims 2 – 7, 9, 10 and 15, as anticipated by *Damm*, is rendered moot in light of any of the arguments made above and, therefore, claims 2 – 7, 9, 10 and 15 are allowable as a matter of law for at least the reason that claims 2 – 7, 9, 10 and 15 contain all the features and elements of their corresponding independent claim 1. For at least this reason, Applicants request that the rejection of claims 2 – 7, 9, 10 and 15 be withdrawn.

Furthermore, as to the rejection of claim 9, Applicants traverse the allegation that Applicants have admitted the substance of claim 9 on pg. 4 lines 10-12 of the specification. Specifically, the Office Action alleges that lines 10-12 of the specification “states that a 10° taper is advantageous because it facilitates rotation of a press-fit fastener within a bore during installation.” (Office Action, pg. 6). However, this is not an admission for at least the reason that the cited text of Applicants’ specification does not describe a “helical profile” at all. Rather, the cited text of page 4, lines 10 – 12 describes “spaced apart, parallel knurled portions continuously extending about the axis of the fastener.” These knurl elements are not equivalent at all to the claimed “helical profile.”

Additionally, as to the rejection of claim 15, Applicants traverse the allegation that Applicants have admitted the substance of claim 15 on pg. 1, line 15 of the

specification. While claim 15 relates to the press-fit fastener of claim 1, the alleged admission relates to a press-fit fastener having a completely different configuration.

Regardless of the substance of the alleged admissions, this rejection of claims 10 and 15 are set forth under 35 U.S.C. §102(b), which requires that all of the elements are disclosed in a *single* reference. Since the Office Action pulls the admissions from the Applicants' own disclosure (apparently to combine with *Damm*), the rejection of claims 10 and 15 under §102(b) is improper.

#### V. Claims 1 – 8 and 10 – 13 are Patentable Over *Waltermire*

The Office Action further rejected claims 1 – 8 and 10 - 13 under 35 U.S.C. §102(b) as allegedly being anticipated by U.S. Patent No. 3,252,495 to Waltermire (*“Waltermire”*).

##### *Independent Claim 1*

Independent Claim 1 recites:

1. A press fit fastener, comprising:
  - a shank having a first end and a second end;
  - a head being located at the first end of said shank; and
  - a press fit portion being located at said shank, said press fit portion having an outer diameter and **including a multiple helical profile**, said helical profile having a beginning portion and an inclination portion having an increasing outer diameter, the outer diameter of said inclination portion being designed to increase in a direction towards said head to reach a maximum outer diameter, the maximum outer diameter of said inclination portion being spaced apart from said head.

(*Emphasis added*). Applicants respectfully submit that independent claim 1 patently defines over *Waltermire* for at least the reason that *Waltermire* fails to disclose, teach, or suggest the features emphasized in bold text above.



For example, *Waltermire* does not disclose, teach, or suggest a press fit portion “including a multiple helical profile” as recited in claim 1. The Office Action apparently alleges that *Waltermire* discloses the claimed “multiple helical profile” by the “knurled shank” (e.g. the portion of the fastener formed by “knurling 11”).

The Office Action apparently acknowledges that the alleged correspondence between the “knurling 11” of *Waltermire* and the “multiple helical profile” of claim 1 is a “broad interpretation.” (Office Action, pg. 6). Applicants agree, and respectfully submit that this interpretation is much too broad to be said to disclose this feature.

In fact, the Applicants have considered, and taken great lengths to distinguish, the claims having a press fit portion with the described “multiple helical profile” from fasteners having press fit portions comprising the cited “knurling.” In that the Office Action already acknowledges that the interpretation taken is broad, the Applicants do not believe that it would substantially advance prosecution to attempt explain in great detail why individually spaced rings of knurls are of a totally different physical form than the claimed “multiple helical profile” (e.g. the term helical is known to confer a spiral shape, while the rings of knurls disclosed in *Waltermire* are not in a spiral form). Rather, Applicants submit that not only are the two structures physically dissimilar, but the structures also operate in different manners and produce different results. Furthermore, the substitution of one over the other is not an obvious replacement for the other, and the use of the claimed “multiple helical profile” has several advantages over the rings of *Waltermire*.

For example, on pg. 4 lines 5 – 12 of the application, Applicants have already made some of these distinctions, specifically with respect to *Waltermire*:

"Press fit fasteners including a shank, a head being located at one end of the shank and a press fit portion including knurls are known from British Patent No. 891,807 and U.S. Patent No. 3,252,495. ***The knurl element consists of spaced apart, parallel knurled portions*** continuously extending about the axis of the fastener. The knurl portions include knurl elements substantially extending in the direction of the axis of the fastener. Preferably, the knurl elements are inclined by an angle of approximately 10° with respect to the screw axis to ensure rotation of the press fit fastener when introducing the fastener into a corresponding bore".

(*Emphasis added*). When introducing such a knurled element into a bore of a component, the surface of the bore and/or of the stud is damaged due to the spaced apart knurled elements of the knurled portion, severely hindering the ability for the stud and/or the component to be reused. These drawbacks have been explained in background section of the specification in great detail with respect to other prior art having a knurled portion, as follows:

"The axial knurled stud does not include a helical profile in the press fit portion. Instead, it includes a knurled press fit portion including knurls which extend in an axial direction. This means that the press fit portion includes a ***majority of adjacent parallel ribs and channels***. In case such a known axial knurled stud is pressed into a bore having a comparatively small inner diameter being located in a hub being made of a comparatively soft material, there will be ***strong elastic and plastic deformations in the region of the inner surface of the bore of the component***. Due to the strong axial direction of the ribs, the inner surface of the bore will also be plastically deformed to attain a knurled design. When the known axial knurled stud is introduced into a comparatively small bore of a hub being made of a comparatively hard material, there will be ***shearing effects in the region of the tips of the ribs of the knurl***. In both hereinabove explained cases, the substantial elastic and plastic deformations are the reason why the known stud and/or the component ***cannot be reused***. This means that it is not possible to dismount the stud from the bore and to later introduce this stud into this bore, to introduce this stud into another bore, or to introduce another stud into this bore."

(*Emphasis added*, pg. 3, lines 3 though 16). Thus, Applicants submit that the knurls of *Waltermire* are not at all equivalent to the claimed "multiple helical profile."

Accordingly, *Waltermire* does not disclose, teach, or suggest at least the feature of a press fit portion “***including a multiple helical profile***” as recited in claim 1.

Accordingly, for at least these reasons, Applicants submit that the rejection to claim 1 should be withdrawn and the claim allowed. Furthermore, because independent claim 1 patently defines over *Waltermire*, dependent claims 2 – 15 are allowable over *Waltermire* as a matter of law for at least the reason that claims 2 – 15 contain all the features and elements of their corresponding independent claim. See, e.g. *In re Fine*, 837 F. 2d 1071 (Fed. Cir. 1988).

#### **Dependent Claims 2 – 8 and 10 – 13**

Applicants submit that the 35 U.S.C. § 102 rejection to claims 2 – 8 and 10 – 13, as anticipated by *Waltermire*, is rendered moot in light of any of the arguments made above and, therefore, claims 2 – 8 and 10 – 13 are allowable as a matter of law for at least the reason that claims 2 – 8 and 10 – 13 contain all the features and elements of their corresponding independent claim 1. For at least this reason, Applicants request that the rejection of claims 2 – 8 and 10 – 13 be withdrawn.

#### **VI. Claims 1- 7 and 9 - 11 are Patentable Over *Hartmann***

The Office Action further rejected claims 1 – 7 and 9 - 11 under 35 U.S.C. §102(b), or in the alternative under 35 U.S.C. 103(a), as allegedly being unpatentable over U.S. Patent No. 6,264,414 to Hartmann (“*Hartmann*”). For the reasons set forth below, the rejection should be withdrawn and the claims allowed.

### ***Independent Claim 1***

Independent Claim 1 recites:

1. A press fit fastener, comprising:
  - a shank having a first end and a second end;
  - a head being located at the first end of said shank; and
  - a press fit portion being located at said shank, said press fit portion having an outer diameter and including a multiple helical profile, said helical profile having ***a beginning portion and an inclination portion having an increasing outer diameter, the outer diameter of said inclination portion being designed to increase in a direction towards said head to reach a maximum outer diameter,*** the maximum outer diameter of said inclination portion being spaced apart from said head.

(*Emphasis added*). Applicants respectfully submit that independent claim 1 patently defines over *Hartmann* for at least the reason that *Hartmann* fails to disclose, teach, or suggest the features emphasized in bold text above.

Applicants submit that many of the arguments set forth above with respect to the differences between claim 1 and *Damm* also apply to the differences between claim 1 and *Hartmann*, and these differences are not obvious over the disclosure of *Hartmann*.

For example, Applicants submit that *Hartmann* fails to disclose, teach, or suggest both of the claimed elements of a “beginning portion” and an “inclination portion.” The Office Action is apparently silent as to what portions of *Hartmann* are even alleged to disclose the “beginning portion” and the “inclination portion.” For example, except to a references to specific relative diameters alleged to be disclosed by *Hartmann*, the sum total of the argument set forth for claim 1 alleges “Refer to illustration below.” (Office Action, pg. 10).

However, the referenced portions of *Hartmann* do not appear to disclose anything more than what has already been alleged as disclosed and distinguished with respect to *Damm*. That is, the alleged press-fit portion does not include both (1) a beginning portion and (2) an inclination portion.

Thus, even assuming, *arguendo*, that any alleged “inclination portion” of the annotated figure referenced on page 10 of the Office Action (corresponding to *Hartmann* FIGs. 2 and 4) is equivalent to the claimed “inclination portion,” Applicants submit that *Hartmann* does not disclose, teach, or suggest a separate “beginning portion,” and claim 1 should be allowed for this reason alone.

Furthermore, assuming, *arguendo*, that a portion of the fitting portion 6 of the annotated figure referenced on page 10 of the Office Action (corresponding to *Hartmann* FIGs. 2 and 4) can be said to correspond to the claimed “beginning portion,” *Hartmann* does not disclose the additional claimed feature of the “inclination portion.” Specifically, the fitting portion 6 of *Hartmann* does not disclose, teach, or suggest the feature of an inclination portion having “an increasing outer diameter, ***the outer diameter of said inclination portion designed to increase in a direction towards said head to reach a maximum outer diameter***” as recited in claim 1. Rather, the threads of the fitting portion 6 appear to have a constant outer diameter.

Accordingly, claim 1 patently defines over *Hartmann* for at least the additional and independent reason that *Hartmann* does not disclose, teach, or suggest the feature of an “***an inclination portion having an increasing outer diameter, the outer diameter of said inclination portion being designed to increase in a direction towards said head to reach a maximum outer diameter***,” as recited in claim 1.

Accordingly, for at least these reasons, Applicants submit that the rejection to claim 1 should be withdrawn and the claim allowed. Furthermore, because independent claim 1 patently defines over *Hartmann*, dependent claims 2 – 15 are allowable over *Damm* as a matter of law for at least the reason that claims 2 – 15 contain all the features and elements of their corresponding independent claim. See, e.g. *In re Fine*, 837 F. 2d 1071 (Fed. Cir. 1988).

## **VII. Claims 8 and 11 are Patentable Over *Damm***

The Office Action rejected claims 8 and 11 under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 5,645,386 to Damm (“*Damm*”). Applicants submit that the 35 U.S.C. § 103 rejection to claims 8 and 11 is rendered moot in light of any of the argument made above and, therefore, claims 8 and 11 are allowable as a matter of law for at least the reason that claims 8 and 11 contain all of the features and elements of their corresponding independent claim 1. For at least this reason, Applicants request that the rejection of claims 8 and 11 be withdrawn.

Additionally, with respect to the rejection of claim 8, Applicants traverse any allegation that the substance of claim 8 is admitted. Specifically, the Office Action alleges that:

As for claim 8, *Damm et al.* suggests ‘multiple’ threads (col. 3 lines 30-31). ***Applicant admits this on page 1 lines 17 – 18 of the specification.***

(*Emphasis added*, Office Action, pg. 7). However, to be clear, Applicant does not admit that “*Damm et al.* suggests ‘multiple’ threads” as alleged. Specifically, any text at page 1, lines 17 – 18 of the disclosure is made with respect to German Patent No. 43 18 494

C1, and not *Damm*. Moreover, the text on page 1, lines 17 – 18 does not disclose, teach, or suggest the claimed feature of “wherein said helical profile includes at least six threads” as recited in amended claim 8.

#### **VIII. Claim 14 is Patentable Over *Waltermire***

The Office Action further rejected claim 14 under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 3,252,495 to Waltermire (“*Waltermire*”). Applicants submit that the 35 U.S.C. § 103 rejection to claim 14 is rendered moot in light of any of the argument made above and, therefore, claim 14 is allowable as a matter of law for at least the reason that claim 14 contains all of the features and elements of its corresponding independent claim 1. For at least this reason, Applicants request that the rejection of claim 14 be withdrawn.

#### **IX. Prior Art Made of Record**

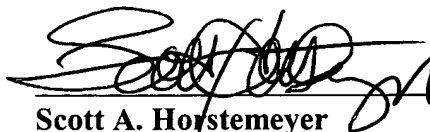
The prior art made of record has been considered, but is not believed to affect the patentability of the presently pending claims.

## CONCLUSION

Applicants expressly reserve the right to present non-elected claims, or variants thereof, in continuing applications to be filed subsequent to the present application. Should the Examiner have any questions regarding this response, The Examiner is invited to telephone the undersigned attorney at (770) 933-9500.

No fee is believed to be due in connection with this response. If, however, any fee is deemed to be payable, you are hereby authorized to charge any such fee to Deposit Account No. 20-0778.

Respectfully submitted,

  
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